



COLUMBIA HELICOPTERS, INC.

January 27, 2022
US Department of Transportation
Docket Operations
1200 New Jersey Avenue, SE
Room W12-140
Washington, DC 20590

In accordance with 14 CFR §11.15 and §11.81, I, Cody L. Barton, petition on behalf of Columbia Helicopters, Inc. (CHI), Air Carrier Certificate CHIA823A for an exemption for relief from §§91.205(h)(7) and 91.9(a).

The nature and extent of the requested regulatory relief and reasons for requesting the relief:

The relief sought is to allow for helicopter Night Vision Goggle (NVG) operations with radar (radio) altimeters that are unreliable or not normally functioning due to radio frequency interference caused by the Federal Communications Commission's (FCC) allocation of a portion of the 3.7–3.98 GHz frequency band available for flexible use including 5G cellular applications.

The relief sought would allow Columbia Helicopters to conduct NVG night firefighting operations, pilot training for Part 135 helicopter operations conducted under a Department of Defense (DoD) contract, and training FAA Safety Inspectors in helicopters without a normally functioning radar altimeter caused by 5G C-Band cellular interference, as required by §91.205 (h)(7) and /or rotorcraft flight supplement limitations (§91.9(a)).

Columbia Helicopters requests this relief **not be limited** to use within the United States. As 5G telecommunication systems are being deployed worldwide, this relief would permit NVG operations required outside the U.S. under DoD contract, and aerial firefighting operations in multiple foreign countries where Columbia Helicopters currently operates.

We support our request with the following information:

The Radio Technical Commission for Aeronautics (RTCA) compiled a report (RTCA Paper No. 274-20/PMC-2073) that revealed a major risk that 5G telecommunications systems in the 3.7–3.98 GHz band (C-Band) will cause harmful interference to radar altimeters on all types of civil aircraft including commercial transport airplanes; business, regional, and general aviation airplanes; and both transport and general aviation helicopters. The results of the study performed clearly indicate that this risk is widespread and has the potential for broad impacts to aviation operations in the United States, including the possibility of catastrophic failures leading to multiple fatalities, in the absence of appropriate mitigations. Further, the impacts are not only limited to the intentional emissions from 5G systems in the 3.7–3.98 GHz band, but also the spurious emissions from such systems within the protected 4.2–4.4 GHz radar altimeter band. Currently, areas affected by 5G C-Band emissions are identified by NOTAM.

The use of NVGs requires a normally functioning radar altimeter in accordance with §91.205 (h)(7) and limitations set forth in rotorcraft flight manual supplements for operations using NVGs. NVGs are presently used by the HAA industry to increase the level of safety while conducting vital life-saving operations. With effective mitigations, Columbia Helicopters believes safe NVG training operations can be conducted at night, including takeoffs and

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landings at off-airport and unimproved landing sites with a radar altimeter that is not functioning normally due to 5G C-Band cellular interference.

Helicopter Association International (HAI) petitioned for and was granted a similar exemption, Exemption 18973.

The reasons why a grant of exemption would be in the public interest and would benefit the public as a whole:

Columbia Helicopters, Inc. (CHI) believes a Grant of this Petition is in the best interest of the public and is reasonable due to the following:

- CHI must conduct initial and recurrent NVG pilot training to meet contractual requirements specifying NVG operational capability for aerial firefighting and DoD support.
- CHI conducts night NVG operations for the US Forest Service and multiple State Agencies, providing wildland fire support and protection of personnel and property.
- CHI is a U.S. Department of Defense (DoD) contractor, operating under an approved FAA Part 135 program (including NVG approval), and requires NVG capability and currency in support of DoD.

The reason(s) why a grant of exemption would not adversely affect public safety or how the exemption would provide a level of safety at least equal to that provided by the rule(s) from which the exemption is sought:

As stated in the previously issued Helicopter Association International exemption, an equivalent level of safety can be maintained in NVG operations through the use of a moveable searchlight. Columbia Helicopters would supplement that with enhanced pilot qualification requirements and GPS altitude information. Use of a searchlight will allow for better visual cues for the pilot to determine height above the ground and to assist in determining rates of closure when landing at off-airport or unimproved landing sites. CHI utilizes two NVG qualified pilots on all NVG flights. Dual altimeters and GPS altitude reporting are used in comparison with known or charted altitudes to enhance situational awareness. Additionally, CHI will determine areas where flight training can be conducted, if possible, in non-5G serviced areas not affected by NOTAMs.

Columbia Helicopters will seek the best route around 5G interference areas whenever possible, but as 5G becomes more prominent, the mitigating procedures afforded by this exemption will enhance safety and permit continued operations in support of critical training, public safety operations, and DoD contract requirements.

Columbia Helicopters proposes that an equivalent level of safety will be maintained provided the following Conditions and Limitations are complied with.

Conditions and Limitations

1. For helicopter operations using NVGs, including operations to and from off-airport and unimproved landing sites, such operations may be conducted in areas where a NOTAM identifies the radio altimeter as unreliable, provided:

- a. The aircraft is equipped with an operable radio altimeter.
- b. The pilot monitors the radio altimeter and uses it when it is performing normally.
- c. The aircraft is equipped with a moveable searchlight installed via an FAA-approved installation method, which the pilot must use to assist in determining height above the ground and rates of closure.
- d. Prior to landing, the pilot must perform a high reconnaissance to assess the landing location.

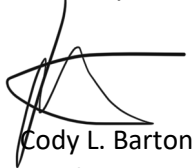
2. All pilots conducting NVG operations under the provisions of this exemption must receive training on the applicability and use of this exemption prior to serving in an operation under this exemption.

As the Federal Communications Commission (FCC) has allowed new 5G C-Band services to operate in the 3.7-3.98 GHz C-Band range to already be in effect, **I request the petition be given the highest priority and be processed in a most expeditious manner to avert an interruption Columbia Helicopters, Inc. operations, the ability to maintain pilot, and FAA currency and proficiency to sustain public safety NVG flight operations.**

Summary

Columbia Helicopters, Inc. petitions for an exemption for relief from §§91.205(h)(7) and 91.9(a) to allow for operations to be conducted under 14 CFR Part 61, 91, and 135, including operations with NVGs and night landings and takeoffs from unimproved or off airport sites, with an unreliable or not normally functioning radar (radio) altimeters.

Sincerely,

A handwritten signature in black ink, appearing to read 'Cody L. Barton', with a stylized, sweeping flourish extending to the right.

Cody L. Barton
Chief Pilot
Columbia Helicopters, Inc.
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